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| **Muscle** | **Origin** | **Insertion** | **Innervation** | **Blood Supply** | **Action** |
|  |  |  |  |  |  |
| Trapezius | Medial third of superior nuchal line, external occipital protuberance, ligamentum nuchae, spinous processes of C7-T12 | Lateral third of posterior clavicle, medial acromion, superior edge of spine of scapula | Spinal root of accessory nerve (CN XI) and C3 and C4 | Transverse cervical artery, dorsal scapular artery | Elevates scapula (descending part), retracts scapula (transverse part), depresses scapula (ascending part); rotates scapula (descending and ascending parts acting together) |
|  |  |  |  |  |  |
| Latissimus dorsi | Spinous processes of T7-T12, thoracolumbar fascia, iliac crest, lower three to four ribs | Floor of intertubercular sulcus of humerus | Thoracodorsal nerve (C6-C7) | Thoracodorsal artery | Extends, adducts and medially rotates arm, draws shoulder downwards and backward |
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| **Muscle** | **Origin** | **Insertion** | **Innervation** | **Blood Supply** | **Action** |
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| Levator scapulae | Posterior tubercles of transverse processes C1-C4 | Medial border of scapula above base of spine of scapula | Dorsal scapular and cervical (C3-C4) nerves | Dorsal scapular artery, transverse cervical artery | Elevates scapula medially, inferiorly rotates glenoid cavity |
|  |  |  |  |  |  |
| Rhomboid minor | Ligamentum nuchae, spinous processes of C7 and TI | Medial border of scapula above base of spine of scapula | Dorsal scapular nerve (C4-C5) | Dorsal scapular artery | Retracts and stabilizes the scapula |
|  |  |  |  |  |  |
| Rhomboid major | Spinous processes of T2-T5 | Medial border of scapula below base of spine of scapula | Dorsal scapular nerve (C4-C5) | Dorsal scapular artery | Retracts and rotates scapula to depress the glenoid cavity |
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| **Muscle** | **Origin** | **Insertion** | **Innervation** | **Blood Supply** | **Action** |
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| Deltoid | Lateral third of anterior clavicle, lateral acromion, inferior edge of spine of scapula | Deltoid tuberosity of humerus | Anterior and posterior branches of axillary nerve (C5,C6) | Posterior circumflex humeral artery, deltoid branch of thoracoacromial artery | Clavicular part-flexes and medially rotates arm; acromial part-abducts arm; spinal part-extends and laterally rotates arm |
|  |  |  |  |  |  |
| Supraspinatus | Supraspinous fossa of scapula | Superior facet of greater tubercle of humerus | Suprascapular nerve (C5,C6) | Suprascapular artery | Initiates arm abduction, acts with rotator cuff muscles |
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|  |  |  |  |  |  |
| Infraspinatus | Intraspinous fossa of scapula | Middle facet of greater tubercle of humerus | Suprascapular nerve (C5,C6) | Suprascapular artery | Lateral rotation of arm (with teres minor) |
|  |  |  |  |  |  |
| Teres minor | Upper two thirds of posterior surface of lateral border of scapula | Inferior facet of greater tubercle of humerus | Posterior branch of axillary nerve (C5,C6) | Circumflex scapular artery | Lateral rotation of arm, adduction |
|  |  |  |  |  |  |
| Teres major | Posterior surface of inferior angle of scapula | Medial lip of intertubercular sulcus | Inferior subscapular nerve (C5,C6) | Circumflex scapular artery | Adducts and medially rotates arm |
|  |  |  |  |  |  |
| Subscapularis | Subscapular fossa | Lesser tubercle of humerus | Superior and inferior subscapular nerves (C5-C6) | Subscapular artery, lateral thoracic arter | Medially rotates arm and adducts it; helps hold humeral head in glenoid cavity |
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| **Muscles** | **Origin** | **Insertion** | **Innervation** | **Blood supply** | **Action** |
|  |  |  |  |  |  |
| Biceps brachii | Long head-supraglenoid tubercle of humerus; Short head-tip of coracoid process of scapula | Radial tuberosity, fascia of forearm via bicipital aponeurosis | Musculocutaneous nerve (C5,C6) | Muscular branches of brachial artery | Supinates forearm Flexes forearm when it is supinated |
|  |  |  |  |  |  |
| Coracobrachialis | Tip of coracoid process of scapula | Middle third of medial surface of humerus | Musculocutaneous nerve (C5,C6,C7) | Muscular branches of brachial artery | Flexes and adducts arm |
|  |  |  |  |  |  |
| Brachialis | Distal half of anterior surface of humerus | Coronoid process and tuberosity of ulna | Musculocutaneous nerve (C5,C6) | Radial recurrent artery, muscular branches of brachial artery | Flexes forearm |
|  |  |  |  |  |  |
| Triceps brachii | Long head-infraglenoid tubercle of scapula; Lateral head -upper half of posterior humerus; Medial head -distal two thirds of medial and posterior humerus | Posterior surface of olecranon process of ulna | Radial nerve (C6,C7,C8) | Branch of profunda brachii artery | Extends forearm, long head stabilizes head of abducted humerus |
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| **Muscle** | **Origin** | **Insertion** | **Innervation** | **Blood supply** | **Action** |
|  |  |  |  |  |  |
| Pronator Teres | Two heads: medial epicondyle of humerus and coronoid process of ulna | Midway along lateral surface of radius | Median nerve (C6,C7) | Anterior ulnar recurrent artery | Pronates forearm, assists in flexion |
|  |  |  |  |  |  |
| Flexor carpi radialis | Medial epicondyle of humerus | Base of second metacarpal | Median nerve (C6,C7) | Radial artery | Flexes and abducts hand at wrist |
|  |  |  |  |  |  |
| Palmaris longus | Medial epicondyle of humerus | Distal half of flexor retinaculum and palmar aponeurosis | Median nerve (C7,C8) | Posterior ulnar recurrent artery | Flexes hand and tenses palmar aponeurosis |
|  |  |  |  |  |  |
| Flexor carpi ulnaris | Humeral head: medial epicondyle of humerus; Ulnar head: olecranon and posterior border of ulna | Pisiform bone, hook of hamate, base of fifth metacarpal | Ulnar nerve (C7,C8 and T1) | Posterior ulnar recurrent artery | Flexes and adducts hand at wrist |
|  |  |  |  |  |  |
| Flexor digitorum superficialis | Humeroulnar head: medial epicondyle and coronoid process of ulna Radial head: anterior border of radius | Bodies of middle phalanges of medial four digits | Median nerve (C8-T1) | Ulnar and radial arteries | Flexes middle and proximal phalanges of medial four digits; also flexes hand at wrist |
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| **Muscle** | **Origin** | **Insertion** | **Innervation** | **Blood supply** | **Action** |
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| Deep | | | | | |
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| Flexor digitorum profundus | Medial and anterior surface of proximal three-quarters of ulna, and interosseous membrane | Anterior base of distal phalanges of medial four digits | Medial part: ulnar nerve (C8-T1); Lateral part: medial nerve (C8-T1) | Anterior interosseous artery and muscular branches of ulnar artery | Flexes distal phalanges of medial four digits; assists in flexion of hand at wrist |
|  |  |  |  |  |  |
| Flexor pollicis longus | Anterior surface of radius and interosseous membrane | Palmar base of distal phalanx of thumb | Anterior interosseous branch of median nerve (C7-8) | Anterior interosseous artery | Flexes phalanges of thumb |
|  |  |  |  |  |  |
| Pronator quadratus | Distal fourth of anterior ulna | Distal fourth of anterior radius | Anterior interosseous branch of median nerve (C7-8) | Anterior interosseous artery | Pronates forearm |
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| **Muscle** | **Origin** | **Insertion** | **Innervation** | **Blood supply** | **Action** |
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| Brachioradialis | Proximal two thirds of lateral supracondylar ridge of humerus | Lateral side of distal end of radius | Radial nerve (C5-C6) | Radial recurrent artery | Flexes forearm |
|  |  |  |  |  |  |
| Extensor carpi radialis longus | Distal one-third of lateral supracondylar ridge of humerus | Dorsal base of second metacarpal | Radial nerve (C6-C7) | Radial artery and radial recurrent artery | Extends and abducts hand at wrist |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Extensor carpi radialis brevis | Lateral epicondyle of humerus (common extensor tendon) | Dorsal base of third metacarpal | Deep branch of radial nerve (C7-C8) | Radial artery and radial recurrent artery | Extends and abducts hand at wrist |
|  |  |  |  |  |  |
| Extensor digitorum | Lateral epicondyle of humerus (common extensor tendon) | Extensor expansions of medial four digits | Posterior interosseous nerve (C7-C8) | Posterior interosseous artery | Extends medial four digits; assists in wrist extension |
|  |  |  |  |  |  |
| Extensor digiti minimi | Lateral epicondyle of humerus (common extensor tendon) | Extensor expansion of fifth digit | Posterior interosseous nerve (C7-C8) | Posterior interosseous artery | Extends fifth digit |
|  |  |  |  |  |  |
| Extensor carpi ulnaris | Lateral epicondyle of humerus and posterior border of ulna (common extensor tendon) | Dorsal base of fifth metacarpal | Posterior interosseous nerve (C7-C8) | Posterior interosseous artery | Extends and abducts hand at wrist |
|  |  |  |  |  |  |
| Anconeus | Posterior surface of lateral epicondyle of humerus | Lateral surface of olecranon and posterior proximal ulna | Radial nerve (C5-7) | Deep brachial artery | Assists triceps in extending elbow; abducts ulna during pronation |
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| **Muscle** | **Origin** | **Insertion** | **Innervation** | **Blood supply** | **Action** |
|  |  |  |  |  |  |
| Supinator | Lateral epicondyle of humerus, supinator crest | Lateral, posterior and anterior surfaces of proximal third of radius | Deep branch of radial nerve (C6-C7) | Radial recurrent and posterior interosseous arteries | Supinates forearm |
|  |  |  |  |  |  |
| Abductor pollicis longus | Posterior surface of ulna, radius, and interosseous membrane | Base of first metacarpal | Posterior interosseous nerve (C7-C8) | Posterior interosseous artery | Abducts and extends thumb |
|  |  |  |  |  |  |
| Extensor pollicis brevis | Posterior surface of radius and interosseous membrane | Base of proximal phalanx of thumb | Posterior interosseous nerve (C7-C8) | Posterior interosseous artery | Extends proximal phalanx of thumb |
|  |  |  |  |  |  |
| Extensor pollicis longus | Posterior surface of middle third of ulna and interosseous membrane | Base of distal phalanx of thumb | Posterior interosseous nerve (C7-C8) | Posterior interosseous artery | Extends distal phalanx of thumb |
|  |  |  |  |  |  |
| Extensor indicis | Posterior surface of ulna and interosseous membrane | Extensor expansion of second digit | Posterior interosseous nerve (C7-C8) | Posterior interosseous artery | Extends second digit |
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| **Muscle** | **Origin** | **Insertion** | **Innervation** | **Action** | **Blood Supply** |
|  |  |  |  |  |  |
| Abductor pollicis brevis | Flexor retinaculum, tubercles of scaphoid and trapezium | Lateral side of base of proximal phalanx of thumb (1st digit) | Recurrent branch of median nerve (C8-T1) | Abducts and assists in opposition of thumb | Superficial palmar branch of radial artery |
|  |  |  |  |  |  |
| Flexor pollicis brevis | Flexor retinaculum and trapezium | Lateral side of base of proximal phalanx of thumb | Recurrent branch of median nerve (C8-T1) | Flexes proximal phalanx of thumb | Superficial palmar branch of radial artery |
|  |  |  |  |  |  |
| Opponens pollicis | Flexor retinaculum and trapezium | Lateral side of 1st metacarpal | Recurrent branch of median nerve (C8-T1) | Draws 1st metacarpal forward and rotates it medially | Superficial palmar branch of radial artery |
|  |  |  |  |  |  |
| Adductor pollicis | Oblique head-bases of second and third metacarpals capitate and adjacent bones; Transverse head-anterior surface of third metacarpal | Medial side of base of proximal phalanx of thumb | Deep branch of ulnar nerve (C8-T1) | Adducts thumb | Deep palmar arch |
|  |  |  |  |  |  |
| Palmaris brevis | Palmar aponeurosis | Skin of ulnar border of palm | Superficial palmar branch of ulnar nerve (C8) | Deepens the hollow of the hand | Superficial palmar arch |
|  |  |  |  |  |  |
| Abductor digiti minimi (hand) | Pisiform bone, tendon of flexor carpi ulnaris | Medial side of base of proximal phalanx of little finger | Deep branch of ulnar nerve (C8-T1) | Abducts the little finger (fifth digit) | Deep palmar branch of ulnar artery |
|  |  |  |  |  |  |
| Flexor digiti minimi brevis (hand) | Flexor retinaculum and hook of hamate bone | Medial side of base of proximal phalanx of little finger | Deep branch of ulnar nerve (C8-T1) | Flexes proximal phalanx of the little finger | Deep palmar branch of ulnar artery |
|  |  |  |  |  |  |
| Opponens digiti minimi | Flexor retinaculum and hook of hamate bone | Medial side of fifth metacarpal | Deep branch of ulnar nerve (C8-T1) | Draws fifth metacarpal anteriorly and rotates it to face thumb | Deep palmar branch of ulnar artery |
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|  |  |  |  |  |  |
| Lumbricals 1 and 2 | Lateral two tendons of flexor digitorum profundus | Lateral sides of extensor expansion of digits 2 and 3 | Median nerve (C8-T1) | Extends digits at interphalangeal joints and flexes metacarpophalangeal joints | Superficial and deep palmar arches |
|  |  |  |  |  |  |
| Lumbricals 3 and 4 | Medial three tendons of flexor digitorum profundus | Lateral sides of extensor expansion of digits 4 and 5 | Deep branch of ulnar nerve (C8-T1) | Extends digits at interphalangeal joints and flexes metacarpophalangeal joints | Superficial and deep palmar arches |
|  |  |  |  |  |  |
| Dorsal interossei | Adjacent sides of two metacarpal bones | Base of proximal phalanx and extensor expansion of digits 2-4 | Deep branch of ulnar nerve (C8-T1) | Abducts digits from axial line of hand-third digit | Deep palmar arch |
|  |  |  |  |  |  |
| Palmar interossei | Palmar surfaces of metacarpals 2, 4, and 5 | Bases of proximal phalanx and extensor expansion of digits 2, 4, and 5 | Deep branch of ulnar nerve (C8-T1) | Adducts digits toward axial line of hand-third digit | Deep palmar arch |
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| **Muscle** | **Proximal Attachment (Origin)** | **Distal Attachment (Insertion)** | | **Innervation** | | **Main Actions** |
|  |  |  | |  | |  |
| Trapezius | Superior nuchal line, external occipital protuberance, nuchal ligament, and spinous processes of C7-T12 | Lateral third of clavicle, acromion, and spine of scapula | | Accessory nerve (cranial nerve XI) and C3-C4 (proprioception) | | Elevates, retracts, and rotates scapula; lower fibers depress scapula |
|  |  |  | |  | |  |
| Latissimus dorsi | Spinous processes of T7-T12, thoracolumbar fascia, iliac crest, and last 3-4 ribs | Humerus (intertubercular sulcus) | | Thoracodorsal nerve (C6-C8) | | Extends, adducts, and medially rotates humerus |
|  |  |  | |  | |  |
| Levator scapulae | Transverse processes of C1-C4 | Medial border of scapula | | C3-C4 and dorsal scapular (C5) nerve | | Elevates scapula and tilts glenoid cavity inferiorly |
|  |  |  | |  | |  |
| Rhomboid minor and major | *Minor*: nuchal ligament and spinous processes of C7-T1 *Major*: spinous processes of T2-T5 | Medial border of scapula | | Dorsal scapular nerve (C4-C5) | | Retract scapula, rotate it to depress glenoid cavity, and fix scapula to thoracic wall |
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| Serratus posterior superior | Ligamentum nuchae, spinous processes of C7-T3 | Superior aspect of ribs 2-4 | | T1-T4 | | Elevate ribs |
|  |  |  | |  | |  |
| Serratus posterior inferior | Spinous processes of T11-L2 | Inferior aspect of ribs 9-12 | | T9-T12 | | Depress ribs |
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| **Muscle** | **Proximal Attachment (Origin)** | | **Distal Attachment (Insertion)** | | **Innervation** | **Main actions** |
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| **Superficial Layer** | | | | | | |
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| Splenius capitis | Nuchal ligament, spinous process C7-T3 | | Mastoid process of temporal bone and lateral third of superior nuchal line | | Middle cervical nerves | *Bilaterally*: extend head *Unilaterally*: laterally bend (flex) and rotate face to same side |
|  |  | |  | |  |  |
| Splenius cervicis | Spinous process T3-T6 | | Transverse process (C1-C3) | | Lower cervical nerves | *Bilaterally*: extend neck *Unilaterally*: laterally bend (flex) and rotate neck toward same side |
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| **Intermediate Layer** | | | | | | |
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| Erector spinae | Posterior sacrum, iliac crest, sacrospinous ligament, supraspinous ligament, and spinous processes of lower lumbar and sacral vertebrae | | *Iliocostalis*: angles of lower ribs and cervical transverse processes *Longissimus*: between tubercles and angles of ribs, transverse processes of thoracic and cervical vertebrae, and mastoid process *Spinalis*: spinous processes of upper thoracic and midcervical vertebrae | | Respective spinal nerves of each region | Extend and laterally bend vertebral column and head |
|  |  | |  | |  |  |
| Semispinalis | Transverse processes C4-T12 | | Spinous processes of cervical and thoracic regions | | Respective spinal nerves of each region | Extend head, neck, and thorax and rotate them to opposite side |
|  |  | |  | |  |  |
| Multifidi | Sacrum, ilium, and transverse processes of T1-T12, and articular processes of C4-C7 | | Spinous processes of vertebrae above, spanning two to four segments | | Respective spinal nerves of each region | Stabilizes spine |
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|  |  | |  | |  |  |
| Rotatores | Transverse processes | | Lamina and transverse process or spine above, spanning one or two segments | | Respective spinal nerves of each region | Stabilize, extend, and rotate spine |
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